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Theoretical and empirical basis for gender-fair language use: The case of Spanish

Abstract: The use of so-called gender-fair language (GFL) strategies has increased in light of a much heated and complex theoretical, social and political debate. However, there is still: (i) a crucial need for clarification of the actual consequences (positive and negative) of the use of diverse GFL strategies, and (ii) a lack of comprehensive analyses that systematically contrast the prejudices, arguments against and in favor, and theoretical assumptions underlying GFL with the results of empirical research on the topic conducted in the last decades. For this reason, this chapter first critically analyses the underlying feminist theories that support GFL use and then comprehensively examines those arguments in favor or against their use, focusing particularly on the case of Spanish, a language with grammatical gender marking where masculine grammatical gender is habitually used for mixed-gender reference. Empirical evidence from several languages serves to categorize those arguments against or in favor of GFL that are empirically grounded from those which are not. Therefore, this chapter helps clarify what appear to be prejudices against a potential language change from actual (linguistic and social) consequences of the choice of one or other strategy to refer to people.

Keywords: feminist theories, gender-fair language, linguistic relativism, male bias, masculine generics, Spanish, stereotypes

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1 Introduction

Gender-fair language (GFL) comprises those linguistic strategies that aim at reducing gender stereotyping[1] and discrimination (Sczesny et al. 2016).[2] In recent years, the use of GFL has spread in different contexts (especially in social media and institutions; see Guerrero Salazar 2012, 2020 regarding Spanish). These alternative uses of language aim at avoiding the effects of sexism, that is, discrimination or bias towards a particular sex or social gender, and androcentrism in language: The perspective according to which the masculine and men are taken as the standard norm for humanity (cf. Sczesny et al. 2016).

Two main GFL strategies have been used to make languages more inclusive in terms of a more symmetrical treatment of gender:

1. *Neutralization*, when using (i) epicene nouns such as Spanish *la persona* 'the.FEM person' or *el alumnado* 'the.MASC student.body'; (ii) gender-neutral pronouns such as *quien solicite...* 'whoever applies for...'; (iii) recently formed pronouns to avoid gender binarism in a given language (e.g., *elles* in Spanish, *ze* in English, or *iel* in French); (iv) elided nominals, when possible, as in *Se atenderá en orden de llegada* '(customers) will be assisted in order of arrival'; (v) or the use of letters or special symbols that can only be reproduced in written texts (*lxs alumnxs* or *l@s alumn@s* 'the students').
2. *Gendering*, particularly, feminization, is based on the explicit inclusion of women. Several strategies follow under the latter category, such as (i) gender-splits or pair coordination in *las y los antropólogos* 'the.FEM and the.MASC anthropologists.MASC' in Spanish (or *emakume eta gizon antropologoak* 'female and male anthropologists' in genderless languages such as Basque); or (ii) the use of abbreviated forms with slashes (as in German *Elektriker/in* 'electrician.m/f' or Spanish *el/la autor/a* 'the.MASC/FEM author.MASC/FEM'). Although its application is rather limited and politicised, some speakers also choose to refer to mixed-gender groups and/or to themselves with (iii) grammatically feminine terms in clear opposition to the more extended use of masculine forms for generic statements and mixed-gender groups (*Estamos todas reunidas hoy...* '(We) are all.FEM gathered.FEM here...').

1 In the field of person perception within social psychology, stereotypes have been shown to play a central role in shaping how listeners construe social meaning in context (e.g., Macrae and Bodenhausen 2001; Greenwald et al. 2002). Following Levon (2014), stereotypes can be defined as cognitive structures that link group concepts with collections of both trait attributes and social roles.

2 This article focuses on the linguistic representation of women and men. Theoretical and experimental studies on the representation of gender identities outside this binary approach are still scarce, and future research should address this relevant issue.

The use of some of these strategies has increased in light of a heated and complex debate. Many arguments against sexist uses of language seem to apply to different conceptions about the relationship between language, mind and society. To better understand the discussion about GFL strategies in Spanish, we find it necessary to distinguish three different kinds of approaches in favor of feminist language reforms: [1] *Whorfianist/Relativist* proposals defend the idea that language shapes the way we think; [2] the *Invisibility approach*: Some language uses contribute to women's invisibilization;[3] and [3] the *Pro-change approach*: Speakers of a language in a given speech community can change society, actively choosing and reproducing some particular language uses (and, maybe, avoiding others). Although these three approaches are different, they are not mutually exclusive, as we will show in Section 2.

The chapter is organized as follows. Section 2 comprehensively examines the most relevant theories and notions behind the promotion of GFL strategies. We will clarify the main arguments against and in favor of Whorfianist or Relativist approaches to GFL in Section 3, and against and in favor of Invisibility and Pro-change approaches to GFL in Section 4, focusing on the case of Spanish. Importantly, throughout this chapter, we will critically analyze the empirical evidence presented so far in favor and against these different theories. Section 5 concludes with a summary of most relevant results.

2 Main theories behind the use of GFL strategies

Sexist language reforms have been argued to be built based on Whorfianism or the Sapir-Whorf theory (Gil 2020). Sapir (1929) and Whorf (1956/2012) are considered the precursors of the following claims: that language determines thought, or fixes it in some way ('Strong' versions of Whorfianism), or that language at least influences or shapes thought (as 'Weak' versions state). Within the latter group, *Linguistic Relativity* (LR) or *Neowhorfianism* are weak Whorfianist approaches to language that postulate that the way in which individuals think depends on the language they normally speak. These theories are cognitive theories about how specific grammatical and semantic features of a given language shape the way speakers conceptualize the words and, consequently, how they behave and interact with the world.

3 In this work, we define 'invisibility' as the fact of being ignored, not noticed, or not considered, and 'visibility' in turn refers to the opposite situation, that is, being acknowledged, noticed, or recognized.

Under a *Neowhorfianist/LR* approach to GFL, for instance, one could think that constantly speaking about carpenters using the masculine expression *los carpinteros* ('the.MASC carpenters.MASC') in a generic statement may shape how we learn the concept of *carpenter* as children. People learn what the typical carpenter is by their experiences with carpenters and through the image of carpenters that speakers of their community transmit. Following this logic, language could be one of the possible causes that explain why we have specific expectations about the gender of carpenters, and why the prototypical carpenter in our mental imagery is likely to be male.

Regarding *(in)visibility*, most defenders of GFL claim that language invisibilizes women because they are very rarely mentioned explicitly in our habitual language uses. Although the main tenet behind the invisibility approach differs from Neowhorfianist claims, these two approaches share some important ideas. According to defenders of this approach, language may not directly shape the way people think, but it can favor a male imagery and make women "invisible" in society.

While Neowhorfianism focuses on how language modulates thought, that is, causes a tendency to conceptualize the world in a specific way, proponents of the invisibility approach do not necessarily commit to the idea that language is the cause of gender inequality. Aside from this relevant difference, these two theories are quite intertwined. Defenders of the invisibility approach also claim that how we speak influences the construction of social mental images that make us envision how reality is shaped. In a society where men seem to be everywhere, particularly in positions of power, the message transmitted will be interpreted as females being out of these positions in the collective worldview or social imagery. This line of thought has inspired many published language guides in favor of non-sexist language uses. Bengoechea (2003) claims that, during childhood, women learn to be invisible and construct their identity as being the invisible ones; and, according to her, language has an important role in this process (see also Gygax et al. 2009 for a discussion on the formal learning of grammatical gender in French, and Gygax et al. 2019 for the interpretation of masculine forms by French children).

At this point, it is important to analyze the possible meanings of the term *invisibility*. We distinguish three different perspectives to this notion. First, invisibility can be a synonym of *non-existence*:[4] Every time a group (that is relevant in a specific

4 In English, for instance, the finding that grammatically masculine words can be used to refer to either women or men (*Everyone views his grammar rules as written in stone*) has been interpreted as making women invisible, and to embody and transmit a sexist view of social relations (McConnell-Ginet 1984; Silveira 1980). Moreover, the idea that "What is not named does not exist", attributed to the philosopher George Steiner, has been used as an argument in defense of GFL.

context) is not mentioned in that context, the presence of that particular group is somehow negated, i.e., it does not exist.

Secondly, invisibility can be understood as a consequence of a cognitive bias: The way we speak can perpetuate this sexist bias that the audience already has. In this sense, language is not the cause of the sexist bias; society is. For example, if the prototypical surgeon is a man, when one utters the masculine expression *los cirujanos* ('the.MASC surgeons.MASC'), the stereotype of a male surgeon is perpetuated. In contrast, when uttering *los (cirujanos) y las cirujanas* ('the.MASC [surgeons.MASC] and the.FEM surgeons.FEM'), the speaker is breaking the stereotype, making the audience think about female surgeons as well.

Thirdly, language can be thought of as a tool for (or against) visibilization. This approach takes the notion of invisibility as a cognitive bias a step further and claims that GFL can make the presence of women evident through language, given that women are normally invisible for social reasons. Defenders of this approach will agree that language is not sexist, but comprehenders are. The relevant point in this terminological difference is that the only way to make parsers think about the invisible group is by making their presence explicit, and this may help change people's prejudices and cognitive biases. Every time we utter *los y las cirujanas*, we are explicitly saying that surgeons may be female and potentially counterbalancing an existing sexist prejudice.

Accordingly, the only way to avoid the invisibility of women in our collective imagery is to make explicit that women are present, and one can reach that aim by making some specific linguistic choices that unambiguously evidence women's presence. Therefore, one may consider not using grammatically masculine forms as generic (*masculine generic*; henceforth, MG) in Spanish, since their meaning is ambiguous. For example, one could utter the sentence *Espere a que un médico le llame* 'Wait for some.MASC doctor.MASC to call you' without knowing what the gender of the doctor will be. In this generic statement, the expression *un médico*, thus, may refer to a female doctor or to a male doctor, theoretically. However, people seem to typically interpret these ambiguous expressions as if they referred to men only (Guerrero Salazar 2012; Aliaga Jiménez 2018); i.e., they show a male bias.

The so-called male bias in language use refers to the biased perception of terms that name people without defining their gender as belonging solely to the masculine gender (Stahlberg et al. 2007). Existing studies on this sexist bias have found that it is a robust and frequent phenomenon across different languages (Hamilton 1991; Stahlberg et al. 2007; Garnham et al. 2012: a.o.; see Section 4.2). Androcentrism is considered one of the possible causes of male bias in language. From an androcentric perspective, men are considered to be the subject of reference in general statements about human beings and women are left invisible or excluded from those statements.

One of the most controversial linguistic strategies due to its asymmetric treatment of gender is the use of MG in so-called generic uses to refer to both women and men. Take, for example, grammatically masculine linguistic forms like *exministro* 'ex-minister.MASC' or masculine quantifiers like *todo* 'all.MASC' in Example (1). These masculine forms can be used: a) with specific gender reference to name a group of men, or b) generically to refer to mixed groups or people whose gender is irrelevant or unknown.

(1) *Todos los que vivimos en una ciudad grande...*
'All of us (in masculine in Spanish) who live in a big city...'

Should the use of generic masculine terms be considered sexist? Does it entail an asymmetry when referring to men and women? García Meseguer (1994) pointed out that there is a difference between the use of MG in Example (1), not considered sexist, and phrases like Example (2), which he did consider clearly sexist for imposing an undoubtedly androcentric vision in a general statement about human beings:

(2) Even the most important events in our lives, such as choosing our wife or our career, are determined by unconscious influences.[5]

The question currently being debated is whether the use of some forms not considered sexist by experts in linguistics or grammar until now, such as the use of MG in Spanish, can entail a cognitive gender bias that perpetuates the existing inequalities in the social sphere. That is, even if they do not involve a sexist use of language explicitly or consciously, do they entail a gender bias implicitly or unintentionally?

Finally, with respect to the *Pro-change approach* (linguistic change as social change theory), it should be noted that any proposal of language reform seems to be based on the thesis of social change: A sociolinguistic approach to language planning (e.g., Fasold 1984) emphasizes that language reforms are directed at achieving social change, especially of the kind that promotes greater equality, equity and access to resources. This approach is based on the idea that our linguistic choices can influence society. A large body of empirical work has shown (e.g., in ethnic revival movements and situations of intergroup conflict) that language can become a powerful symbol of group identity and cultural pride, and thus can acquire social significance far beyond its function as a medium of communication (Lambert 1967). Defenders of GFL agree on the idea that language is not only a symbol, but also a tool for social change.

5 From the Spanish: "Hasta los acontecimientos más importantes de nuestra vida, como elegir nuestra esposa o nuestra carrera, están determinados por influencias inconscientes." (García Meseguer 1994).

3 Arguments in favor and against Determinist and Neowhorfianist/Relativist approaches to GFL

Argument against GFL use: Communities with feminine generics should be more egalitarian, but they are not.

Against a strong Determinist approach to GFL, many linguists and experts have argued that there is no causal relation between social inequality and language. For example, Grijelmo (2018) argues that this relationship is not a causal one, since many societies that use generic feminine forms (which, in principle, may suggest a social asymmetry in favor of women) are patriarchal societies. Some other researchers (Bosque 2012; Gil 2020) have claimed that GFL can be used in patriarchal societies to express sexist messages, and that we may use non-GFL to express very gender-inclusive ideas. These authors hence defend the notion that some uses of language may be sexist, but sexism is not an essential part of language per se, but of the things that people say.

In some regions of the world, there are languages whose structure shows a systematic bias towards the feminine grammatical gender (Alpher 1987; Motschenbacher 2010b).[6] This situation has been documented for certain Australian Aboriginal languages (such as Kala Lagaw Ya, a Pama-Nyungan language), Native American languages (such as the Iroquoian languages Oneida and Seneca; Chafe 1977; in Motschenbacher 2010b) and African languages (Maasai, a Nilotic language spoken in Kenya; Tucker and Mpaayei 1955). Kala Lagaw Ya, for instance, possesses a grammatical gender system with two classes: feminine and masculine. The masculine class is restricted to nouns denoting men, male animals and the moon, exclusively, and all other nouns are feminine. Feminine gender is the default choice for noun classification, and it can function generically for plural personal reference (for groups, even if they comprise males only; Bani 1987). Similarly, in Maasai, the feminine grammatical gender is used for generic reference, whereas masculine agreement is male-specific (the sentence *Ainai na-ewuo?* can mean either the generic 'Who has come?' or the feminine-specific 'Which woman has come?'; Tucker and Mpaayei 1955: 27).

As noted by Alpher (1982; in Motschenbacher 2010b), this systematic bias towards the feminine grammatical gender as the unmarked gender category happens in the languages of cultures in which women have, or have had, a relatively high status. Oneida, an Iroquoian language, is cited as an example of this phenomenon. The first relevant question in the light of our research is whether there is higher so-

6 There is a major cross-linguistic asymmetry, as the masculine default is more frequently used across languages compared to the feminine default (Motschenbacher 2010a).

cial equality, or either female or male-oriented sexism, in those communities where a language with feminine generics is spoken. Although there are still no systematic studies that clarify this question, Grijelmo (2018) notes that languages with feminine generics do not seem to correspond to more egalitarian nor matriarchal societies. Zayse, for example, is spoken by a multilingual community of around 30,000 speakers in southwestern Ethiopia, a community characterized by a marked patriarchal social organization (Marqueta 2016). However, other languages with feminine generics, such as Mohawk (now 3,000 speakers in the US and Canada), did occur in societies with notable matriarchal features (Grijelmo 2018).

Following a strong linguistic determinism hypothesis, female-biased languages (such as those with feminine generics) should be female-dominated. This prediction does not seem to hold, as a language systematically and traditionally having the feminine as the default or generic grammatical gender does not assure its community to be clearly female-dominated or more egalitarian in general terms.

Argument against GFL use: Languages without grammatical gender marking should be more egalitarian.

One could also wonder whether users of languages without gender marking are less sexist than those who speak a language with feminine/masculine grammatical gender contrasts. Wasserman and Weseley (2009) conducted two surveys at a New York high school where participants had to read a text in either a gender marking language (Spanish or French) or a language without grammatical gender marking (English), and then complete a survey of sexist attitudes. 74 students who were enrolled in Spanish language classes participated in the Spanish-English study (they were mostly monolingual English speakers, but also some L1 Spanish and some English-Spanish bilingual speakers). 85 students at the same school participated in the French-English study (mostly monolingual English speakers, but also a few L1 French and English-French bilingual speakers). The results of these two studies show that participants who had read a passage in a language with grammatical gender distinctions expressed more sexist attitudes than those that had read the same passage in English. In their discussion of the results, Wasserman and Weseley suggest that, since they constantly differentiate between the masculine and feminine, languages with this grammatical gender contrast may contribute to a more general belief that men and women are different.

However, considering that empirical research has shown that there is a foreign language effect in decision-making, we should be cautious about the abovementioned results. Concretely, research has found that people do not make the same decisions in a foreign language as they would in their native tongue (Costa et al. 2014; Hayakawa et al. 2017; a.o.). In this light, since most participants were L1 En-

glish speakers, the results of the two above-mentioned studies could be showing a difference in performance because participants completed a task either in their native language (English) or in a foreign language (Spanish or French).

Second, Prewitt-Freilino et al. (2012) observed a correlation between countries in which a language with a grammatical masculine-feminine contrast is the predominant language and lower gender equality compared to countries in which a language is spoken that does not show such a contrast, or only distinguishes gender in third-person pronouns. The authors found such an effect even when other potentially influential factors on gender equality (such as geographic region, religious tradition, political system, overall development) were apparently controlled for. Prewitt-Freilino et al. (2012) find that countries that speak gender-marked languages evidence less gender equality than countries that speak languages without grammatical gender marking. However, as it will become clear later, languages without grammatical gender marking can include seemingly gender-neutral terms that in fact connote a male bias (just as gender-marked languages). Hence, a strong deterministic approach to the social consequences of our linguistic uses should be questioned and still further investigated.

Argument against GFL use: Languages do not influence people's mental representations.[7]

At this point, it is important to have in mind that the GFL version of Neowhorfianism/LR is a much softer version of the original deterministic hypothesis. Nowadays, most defenders of the former claim that language does not determine the way people think, but it can shape how we create some concepts and how we think about them (Boroditsky 2001; Levinson 2003). However, Neowhorfianists do not predict that communities in which people use more inclusive strategies will be more feminist. They claim that linguistic differences may modulate how speakers of different languages categorize reality and, therefore, their thought and their performance may differ (Levinson 2003).

7 As Gygax and Gabriel (2011) discuss, a common assumption underlying linguistic comprehension is that both explicit information as well as extracted implicit information form what is called a mental representation or a mental model of the text (Broek et al. 1998; Graesser et al. 1994). A mental model is composed by (i) the exact words and syntax; (ii) all text propositions and elements needed for text cohesion; and (iii) a more elaborate level that conveys the situation portrayed in the text. This third level is argued to embrace information about people, settings, actions and events described explicitly or implicitly by the text (Garnham and Oakhill 1996), which are included in readers' mental model through the process of inference making (McKoon and Ratcliff 1992; Graesser et al. 1994) (see Gygax and Gabriel 2011 for further discussion on the notion of mental representation).

Some Neowhorfianists have claimed that the grammatical gender assigned to an object by a language influences how people think of that object (Boroditsky et al. 2003). Flaherty (2001), for instance, investigated the influence of grammatical gender on the way children perceive the world by investigating Spanish, a gender-marked language, and English, a non gender-marked language. In one of the experiments, English-speaking and Spanish-speaking participants of different ages (5–7 years, 8–10 years and adults) had to assign gender and to put typical male or female names to different objects presented in cartoons. Older Spanish participants (8–10 and adults) were inclined to assign gender and names according to the grammatical gender of the object, whereas older English participants assigned gender according to specific perceived gender attributes. Both 5–7-year-old English and Spanish participants assigned gender according to their own gender more than older participants. Flaherty's (2001) main conclusion was that grammatical gender enabled Spanish participants to assign gender and gender attributes for older participants; whereas younger participants had not yet fully acquired the principles of grammatical gender. Most importantly, this study showed that acquiring a language with or without grammatical gender marking can influence cognitive processing and the gender attributes assigned to referents.

Argument against GFL use: Grammatical gender is arbitrary and has completely innocuous or neutral consequences.

In the specific context of Spanish language, the debate has been very much focused on the use of MG to refer to groups that include men and women. For example, masculine expressions such as *los alumnos* ('the.MASC students.MASC') are generally used to refer to mixed-gender groups or to a group of people whose gender is irrelevant or unknown. According to many feminists, the use of MG contributes to invisibilizing or excluding non-males.

Contrary to this idea, it has been argued that GFL defenders confuse grammatical gender with conceptual/social gender (Escandell-Vidal 2020; Mendívil-Giró 2020; Gil 2020). That is, that there is a false matching between social gender and grammatical gender, since grammatical gender and social gender or sex do not always converge. For example, the Spanish word *lámpara* ('lamp') is feminine and the word *suelo* ('floor') is masculine. There is nothing in these two objects that make them masculine or feminine. The assignment of one grammatical gender or another seems to be arbitrary. When we speak about gendered individuals, Spanish mostly uses masculine and feminine terms that coincide with their social gender or biological sex, but this does not occur in many cases, such as generics, groups, epicene nouns (*la persona* 'the.FEM person') etc. These expressions carry grammatical gender cues, but they are not related to the social gender of the referent.

Despite the proposals just presented, empirical research has shown that the presence of grammatical cues is a relevant factor for interpreting a given expression, and that grammatical gender marking does not have completely arbitrary or neutral consequences for parsers, even when talking about inanimate objects (cf. Boroditsky et al. 2003; Bassetti 2007). For instance, in Konishi (1993), German and Spanish speakers rated a set of nouns on the dimension of potency (a dimension highly associated with masculinity). Half of the nouns were grammatically masculine in German and feminine in Spanish, and the other half were opposite. Results showed that both Spanish and German speakers judged the word for *man* to be more potent than that for *woman*. Interestingly, they also judged grammatically masculine nouns in their native language to be more potent (stronger, bigger or heavier) than feminine ones, even though all tested nouns referred to objects or entities that had no biological gender. The author concluded that words carry connotations of femininity and masculinity depending on their grammatical gender.

Sera et al. (2002) also tested Spanish, French and English adults and children (aged 6, 8, and 10) using a voice attribution task. Participants attributed either a female or a male voice to pictures of artifacts (e.g., plane and book), animals (e.g., spider and bat), and naturally occurring objects (e.g., corn and star). Results showed that the grammatical gender of the word for each entity affected the voice attributions of French and Spanish adults and children above age eight. When natural kinds and artifacts had the same gender in the two languages, French and Spanish speakers attributed them either feminine or masculine voices depending on the grammatical gender of the word for that entity. And when they had opposite gender, French and Spanish children attributed opposite voices to natural kinds, depending on the grammatical gender of the word in each language (although this effect was not found with artifacts).

The results from these studies show that, even if the assignment of one grammatical gender or another to a given word may be arbitrary, grammatical gender marking can influence how people perceive the referent of a word (for a more detailed review, see Boroditsky et al. 2003 and Bassetti 2007). That is, despite being arbitrary, grammatical gender marking has an impact on how people categorize and conceptualize the referent of a given word. Therefore, it may be possible for words marked with a particular grammatical gender (as in the case of MGs) to influence the way people conceptualize the referent of those words.

4 Arguments in favor and against Invisibility and Pro-change approaches to GFL

4.1 Stereotypicality in gender roles and the interpretation of (ambiguous) masculine forms

Argument against GFL use: The potential ambiguity of MG is effectively resolved, since they can easily be interpreted as mixed-gender (generic), or male-exclusive depending on the context.

Against the Invisibility approach to GFL, it has also been claimed that MG forms are only theoretically ambiguous, but not in their real use. Escandell-Vidal (2020) and Mendívil-Giró (2020) defend that comprehenders normally understand whether an ambiguous masculine expression has an interpretation inclusive to all genders or not. These authors argue that it is the exclusive (male-only) interpretation that requires further specification. For example, the phrase *el empleado* has different meanings in Examples (3-a) and (3-b): It can refer to any employee (female or male) in (3-a); or to a particular male employee in (3-b).

(3) a. *El empleado que se ausente será despedido (, sea hombre o mujer).*
'Any(the.MASC) employee.MASC who gets absent will be fired, be they a man or a woman.'
b. *El empleado que se ausentó fue despedido (?, fuera hombre o mujer).*
'The.MASC employee.MASC who was absent was fired, be they a man or a woman.'

Mendívil-Giró (2020) argues that MG are only potentially ambiguous, since a given context disambiguates their meaning; that is the reason why the continuation in parentheses in (3-a) is felicitous, but not in (3-b).

In contrast, following an invisibility approach, it is noted that the fact that context may sometimes help in disambiguating the meaning of an MG does not make these expressions non-ambiguous:

(4) *Los empleados que se ausenten serán despedidos.*
'Any(the.MASC) employees.MASC who get absent will be fired.'

Example (4) is ambiguous, just as the beginning of Example (3-a). While *sea hombre o mujer* in (3-a) disambiguates the sentence, making it explicit that some of the employees may be women, that may not be the case in sentences such as (4).

As Bosque (2012) claims, the use of MG to designate groups of women and men is firmly established in many grammars, such as that of Spanish. It is noteworthy that when we find an ambiguous word (that is, when we can have a male specific or mixed-gender interpretation) or when no explicit information about the gender of a referent is given (e.g., *the surgeons*), gender stereotypes rooted in our society often unconsciously disambiguate these expressions for us and make a prediction about the gender of the referent (that we may need to revise later on). Sanford (1985) and Carreiras et al. (1996) show that there is a tendency to consider ambiguous nouns as having male referents in English and Spanish, and argue that it is due to the use of MG and social stereotypes or sexist roles established in these speech communities. These authors suggest that information about gender stereotypes is reproduced in linguistic forms that do not have grammatical gender cues or which are ambiguous, thus maintaining social gender asymmetries.

With reference to stereotypes, on the one hand, Martyna (1978) observed that stereotypical gender roles affect the interpretation of nouns in English that do not specify the gender of the referent. In the study, participants had to complete sentence fragments such as *When an engineer makes an error in calculation...*. She varied the content of the sentences, using male-related (as in *engineer* above), female-related, or non-gender-related antecedents, and found that participants' choices of pronouns were strongly affected by the socially rooted gender stereotype of the antecedent. So, for example, subjects were likely to write *an engineer..., he*, *a secretary..., she*, and *a human being..., they*, and both the pronouns used and the imagery (what images had come to people's minds as they completed the sentences) tended to match the antecedent's stereotypical gender (cf. also Garnham et al. 2002).

While socially rooted gender stereotypes seem to play an important role in the mental representation of gender in languages with gender-unmarked nouns such as English, in gender-marked languages, grammatical gender cues also come into play and at times seem to be predominant. In a systematic comparative study, Gygax et al. (2008) found that in gender marking languages grammatical gender generally outweighs social gender. Their results indicated that when role names were written in the masculine plural form in French and in German, grammatical cues overrode stereotype information in constructing a mental representation of gender. When no grammatical gender information was available, as in English, the mental representation of gender was solely based on stereotype information. From this, they concluded that the representation of gender is based on stereotypicality when no gender cues are provided, whereas it is based on the grammatical marking of gender if cues are provided.

In sum, information about gender stereotypes is reproduced in linguistic forms that do not show grammatical gender cues or which are ambiguous, as in the case of MGs. Therefore, those uses may reproduce prevailing social gender asymmetries.

In this light, it is also important to highlight a general conclusion in Gygax et al. (2019) based on previous empirical research on the processing of (ambiguous) masculine forms: Adults struggle to process masculine forms as generic, and tend to attribute male values to role nouns or occupations written in the masculine form, in most cases regardless of stereotype. This result was observed in Stahlberg et al. (2007) or Schmitz et al. (2023) in German; and Gygax et al. (2008), Gabriel et al. (2008), or Garnham et al. (2012) in French and German, among many other studies. In fact, many studies, using a variety of comprehension tasks, have consistently found that both terms such as *man* and *he* in English also tend to be interpreted as referring only to males, despite appearing in generic contexts (some early studies are Moulton et al. 1978; MacKay 1980; Martyna 1980; Crawford and English 1984).

In the case of Spanish, Perissinotto (1983) showed that sentences like *Todo hombre tiene derecho de entrar en la república y salir de ella* ('Every man has the right to get into and out of the republic') are naturally interpreted as referring not to every human being but to every man. The author claims that "Such high incidence of specific interpretations casts serious doubt on the whole notion of generic which, this research seems to show, is only useful when talking about self-monitored and guarded speech, hardly the most common mode" (Perissinotto 1983: 585). Thus, although it has been argued that MGs have a clear mixed-gender interpretation in generic contexts, numerous comprehension tasks have shown that, despite appearing in explicitly gender-neutral contexts, MGs tend to be interpreted as referring only to males (Perissinotto 1983; Schmitz 2024; Gygax et al. 2019: and references therein), thus supporting Invisibility theories to GFL.

4.2 GFL and reducing sexist cognitive biases

Argument against GFL use: GFL is unnecessary, as its strategies do not reduce the gender bias present in our society.

Since the 70s, studies into the mental imagery associated with MG have shown that the use of GFL reduced the maleness of the mental imagery. Most studies on gender biases in language use have been carried out for English or German. As far as English is concerned, evidence of a male bias can be found, for example, in studies by Moulton et al. (1978), Wilson and Ng (1988), Hamilton (1988, 1991), Khoroshahi (1989), Stahlberg et al. (2001) or Lindqvist et al. (2019), more recently. As Sczesny et al. (2016) claim, empirical findings about the disadvantages of MG have been ignored in political controversies and public discussions about GFL.

Most investigations in English and German found that, when GFL forms were used instead of MG, the cognitive inclusion of women was promoted and the male

bias weakened. Although the effects of this bias varied in degree, and it was not confirmed in all the experimental conditions of all the empirical investigations, it is evident that it is the most general trend that has emerged in the cited empirical studies (Stahlberg et al. 2007: for a review). In Khoroshahi (1989), for instance, the results revealed differences in the mental imagery connected to MG or GFL only in the case of women who had reformed their language. She concluded that the adoption of GFL was only effective if there is personal awareness of the discriminatory nature of some expressions and there is personal commitment to change.

Already in 1975, Harrison and Passero observed a male bias in 8-year-old children when interpreting MG in English. Concretely, upon reading instructions like *Christmas is a time when [people/men] of goodwill gather to celebrate. Circle the following group or groups which show [people/men] of goodwill.*, only 3–31% of the children who saw the instructions with neutral words (*people*) circled males only. In contrast, it was 49–85% of the students who saw the instructions with MG (*men*) that circled male figures. This difference was statistically significant. The results suggest that children interpret masculine forms in generic contexts as if they referred to males only, not with a generic interpretation. This male bias is alleviated when using terms that do not specify the gender of the referent (*handmade/manmade*, *salesperson/salesman*).

More recently, Lindqvist et al. (2019) have run two experiments (English and Swedish) to measure the perception of different gender coding strategies and analyze the consequences of the use of neologisms that avoid the binary gender system. Participants had to read a text (a description of a candidate for a gender-neutral job position) and choose an image of the person who fitted the description best. Some sentences in these texts were written with either the doubling strategy (using gender-splits or couplets such as *he/she*); with new gender-neutral pronouns (the newly created English pronoun *ze* and Swedish *hen*); or without gender cues (as in *the applicant*). Importantly, the results of both experiments indicated that feminization by duplication and new gender-neutral pronouns were interpreted as if they referred to women more often than any other strategy; and the forms used traditionally and that lack gender marks were mostly interpreted as referring to men (male bias).[8]

8 One of the limitations of this experiment is that the number of female and male participants was not balanced. Previous research has shown (Hamilton and Henley 1982; Martyna 1978) that men tend to have more male-biased imagery than women. Men's greater bias might be explained in several different ways. The most obvious but least charitable explanation is that men are simply more sexist than women. Other factors may contribute, however. Part of what goes into the creation of imagery for both men and women could be a projection of 'self' into the sentences. This idea comes from Silveira's (1980) *people = self bias*. Another possibility also suggested by Silveira is that

4.3 Comprehensibility, quality, economy and level of difficulty

Arguments against GFL use:

1. *GFL is less comprehensible for parsers, and considered to be of less quality for both speakers and hearers.*
2. *GFL is less economical for both speakers and hearers.*
3. *GFL is difficult to use continuously for speakers.*

It has been argued that some GFL strategies that visibilize women and non-binary people may require a high level of attention to grammar and that they may be very difficult to be processed or understood. For example, in order to use the non-binary neomorpheme *-e* in Spanish, speakers have to pay attention to all determiners, adjectives and nouns that refer to people. This observation has been used to develop an argument against the guidelines published by some institutions (Gil 2020): GFL requires speakers to be very self-conscious of their grammar, which may be particularly hard for non highly-qualified people. Moreover, it has been argued that it is very problematic for a particular group of people to decide that some expressions (that most speakers use every day) should be avoided (Bosque 2012; Martínez 2008). Bosque (2012) argues that if the linguistic strategies proposed in language reform guides were applied in their strictest terms, it would not be possible to speak; and that those proposals should not be applied to common language, but in official language uses only.[9]

Nevertheless, the purpose of GFL guides is not that of imposing a single way to speak, but to offer institutions and individuals some linguistic strategies to be more inclusive, and to raise awareness on sexist uses.

Regarding Spanish, one of the mostly criticized GFL strategies is pair coordination or gender-splits. As stated by Real Academia Española (responsible for regulations on the normative usage of the Spanish language), "Gender pair coordination is grammatical, even polite; but if applied without control, it creates discursive monsters" (Real Academia Española 2020: 56).[10] The sentence in (5) exemplifies a case of overuse of this strategy:

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the people = self bias may be stronger for men than for women, in part due to repeated exposure to MG. A third possibility is that women are less able to project themselves into the sentence when they use MG than are men. These various explanations are not mutually exclusive.

9 For various responses to Bosque's (2012) work, see Moreno Cabrera (2012) and Guerrero Salazar (2012).

10 *Los desdoblamientos de género son gramaticales, e incluso corteses; pero, aplicados sin control, generan monstruos discursivos.*

(5) *Los empleados y las empleadas avisaron a los profesores y las profesoras de que sus hijos e hijas no podrían ir al colegio ese día.*
The.MASC employees.MASC and the.FEM employees.FEM notified the.MASC teachers.MASC and the.FEM teachers.FEM that their sons and daughters would not be able to go to school that day.

The critique seems obvious: Repetitions may feel exhausting to the speaker and audience. It has been argued not only that this strategy is too demanding, but also that it is against the principle of the economy of language (Real Academia Española 2020), which we will discuss below.

Against the idea that GFL is very difficult or demanding, empirical research has shown that reading a text that is written using GFL is not more demanding than reading a text that was not written using GFL (Parks and Roberton 1998). Text quality (Rothmund and Christmann 2002) and cognitive processing are not damaged by the use of GFL (Braun et al. 2007). GFL texts were compared to (generic) masculine texts, and there were no differences in readability and aesthetic appeal (Blake and Klimmt 2010). It is also important to have in mind that these experiments do not measure the cognitive effort from the point of view of the speaker, but only from the perspective of the parsers.

In 2002, the Académie Française, responsible for all regulations on the usage of the French language, explicitly stated that writing job titles in both masculine and feminine forms was "useless" and disruptive to normal reading. Gygax and Gesto (2007) replied and showed that, although the first encounter of alternative terms to the masculine-only in a text did indeed slow down reading (which they considered as a sign of hindering), there was a very fast habituation effect, leading to a perfectly normal reading pace. Gygax and Gesto (2007) showed five texts to participants, each describing an occupation (e.g., mechanic), and each comprising three mentions of the occupation. Some participants saw the texts with MG, whereas others read the text comprising alternatives to the masculine-only form (*mécanicienne-s* or *mécaniciens et mécaniciennes*). The authors monitored self-paced reading times and noticed that for the texts containing the alternative forms, although reading was slowed down by the first encounter of the occupation, participants achieved a normal reading speed at the second and third encounter of the occupation. Hence, Gygax and Gesto (2007) argued that people get used to alternative forms that only temporarily hinder reading.

Regarding the principle of economy of language (PE), according to Jespersen (1949) or Zipf (1949), linguistic economy is best achieved when both addressee's mental energy and speaker's articulatory energy are optimally economized when communicating a message. In this line, PE would not only be a matter of using fewer words, but also about reducing the mental energy of the interlocutors. Importantly,

what all definitions of PE assume is that it is not a law that we must follow, but a descriptive rule that (as speakers) we typically comply with. Álvarez Mellado (2018) claims that, although people generally have an inclination towards linguistic economy, PE is not a mandatory rule that language users and languages must always obey. And, in many cases, speakers do not follow PE, for example, due to expressive reasons. An audience typically expects a speaker to be clear and precise, which usually requires the speaker to use a larger amount of information units to make themselves understood in a given context.

In this spirit, Vervecken et al. (2013) investigated how employing either MGs or duplications for job descriptions impacts children's perception and interest regarding traditionally male occupations, concretely, among girls who spoke two languages with grammatical gender marking systems, Dutch and German. Participants had to read a set of sentences in generic masculine (*Firemen are people who extinguish fires*) or using a coordination of feminine and masculine forms (*Firewomen and firemen...*). In a first experiment, participants had to imagine that they were directors of a film and had to choose who was going to play in that film. Results show that those participants who read the sentences in GFL chose more female actors than participants in the generic masculine condition. Girls were asked who they think was more successful in the given jobs and which job they would like to have when they got older. Importantly, Vervecken et al. found that participants in the GFL condition were more likely to say that women would be more successful and that they would like to work as one of the mentioned jobs.

In the light of the results of Vervecken et al. (2013), a speaker may find expressive or other reasons to use GFL, even if there are "more economical" options. It may not be necessary to use GFL strategies every time there is a human reference in our discourse, but its use in some particular contexts may be notably effective at avoiding ambiguity and male imagery (although still more research is necessary on this point). In this sense, reform guides tend to recommend avoiding the overuse of MGs, not a complete abandonment.

4.4 Feminization strategies and the importance of time

Argument against GFL use: The use of some feminine terms can have negative social consequences.

Moving to the Pro-change hypothesis, Escandell-Vidal (2020) questions the idea that language change and the use of GFL will promote gender equality. This author worries about the potentially negative consequences for women of several feminization strategies. For example, if we insist on making it explicit that a candidate for a job

is a woman, that could have a negative impact on her, because some people will not hire her. Following this line of thought, instead of visibilizing and empowering women, the effect could be that of devaluating the job.

Regarding empirical research on the topic, masculine job titles have been found to be associated with higher competence (McConnell and Fazio 1996), higher status (Merkel et al. 2012), and higher professional opportunities (Formanowicz et al. 2013) than feminine forms. Merkel et al. (2012) show that the feminine job title *avvocatessa* ('lawyer.FEM') in Italian leads to a lower valuation of the status of some jobs. In a similar study, Formanowicz et al. (2013) included an ideological test before the evaluation task and showed that participants who considered themselves politically conservative showed a greater tendency to negatively evaluate women who wrote their job title in the feminine, in comparison to those participants who considered themselves progressivists.

It is important to note that the implementation of GFL is often associated with negative reactions and hostile attacks on people who propose a change, particularly in the case of neopronouns. This was also the case in Sweden in 2012, when a third gender-neutral pronoun (*hen*) was proposed as an addition to the already existing Swedish pronouns *hon* 'she' and *han* 'he' (Gustafsson Sendén et al. 2015). The pronoun *hen* can be used both generically, when gender is unknown or irrelevant, and as non-binary pronoun for people who want to avoid gender binarism. From 2012 to 2015, this third gender-neutral pronoun reached the broader population of language users; this makes the situation in Sweden unique. According to Gustafsson Sendén et al. (2015), in 2012 the majority of the Swedish population had a negative attitude towards the neopronoun, but already in 2014 there was a significant shift towards more positive attitudes. Importantly, time was one of the strongest predictors for a change in attitudes, and the actual use of the word *hen* also increased in this period, although to a lesser extent than the attitudes shifted. Gustafsson Sendén et al. (2015) conclude that, although new words challenging the binary gender system may evoke hostile and negative reactions, attitudes may normalize rather quickly.

5 Conclusion

It is often argued that GFL may be useless (as gender inequality goes far beyond grammar) or even impossible (as speakers' resistance defies linguistic planning). Moreover, it seems to us that visibilizing women through language (being acknowledged, noticed, or recognized) may not be enough to achieve a positive social change for women and gender equality, since it is still mandatory that we change long-established gender stereotypes (cognitive structures that link group concepts with

collections of both trait attributes and social roles) and prejudices. However, studies such as Gustafsson Sendén et al. (2015) in Sweden or Vervecken et al. (2013), among many others, have shown that visibilizing is both possible and that it can have active positive effects on language attitudes and behavior. Most importantly, in Sections 3 and 4 we have reviewed extensive evidence of the impact of grammatical gender on the perception of reality, and the role of MGs and GFL in either reproducing a male bias and gender stereotypes, or avoiding them. Concretely, we have seen that acquiring a language with or without grammatical gender marking can influence cognitive processing, and, although the assignment of grammatical gender may be arbitrary, gender marking was observed not to be meaningless nor neutral, as it may have social consequences (Section 3). Additionally, Section 4.3 showed that GFL is not more difficult, nor of less quality for the listener, and that both economy and expressivity should be taken into consideration for choosing one or another strategy to codify gender. Still, more research on the consequences of using GFL from the point of view of the speaker is necessary.

In addition, gender stereotypes have been shown to influence our interpretation of genderless ambiguous nouns (Section 4.1). But, importantly, ambiguous MG tend to be interpreted as male only due to a sexist cognitive bias, even in clearly generic contexts. In order to avoid such a cognitive bias, some GFL strategies have been shown to avoid or reduce this general male bias (Section 4.2).

Finally, whereas some feminization strategies may show potential negative consequences in the beginning, time is an important factor for changing attitudes and uses (Section 4.4). The empirical evidence in favor of the Neowhorfianist/Linguistic Relativity approach and the Invisible approach suggest that language can be one (of many) vehicles towards social change.

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